

THE SECOND
INDIAN ROADS CONGRESS

BANGALORE

January 1936

PROVISIONAL ARRANGEMENTS

THE SECOND

INDIAN ROADS CONGRESS, 1936.

By the kind invitation of the Government of Mysore, the Congress will be held at Bangalore from the 5th to the 12th of January 1936, including visits to certain road works and other places of interest round Bangalore and Mysore. The provisional programme is attached. (Appendix I). Attendance will be restricted to members and associates who have joined the Congress and have paid their subscriptions. The Memorandum and Articles of Association and the Bye-laws will be issued in due course. In the meantime an outline of these and forms of application for membership and associate-ship will be found at Appendix III. Applications will now be received.

2. The Government of India have agreed to defray the cost of travelling allowance of official delegates and certain other expenditure incidental to the meeting of the Roads Congress in the same way as they did last year, for a further two years. As was the case last year attendance of public servants as official delegates from British India and States will be by nomination by the Governments concerned and it may be assumed, for the present, that the number for whom it will be possible to make arrangements will be approximately the same as last year i.e. :—

I.—Provincial Governments—

Madras,*	}	3 delegates each, including contributors of accepted papers.
Bombay,		
Bengal,		
United Provinces,		
Punjab,		
Bihar and Orissa, and	}	2 delegates as above.
Central Provinces.		
Assam and		
North-West Frontier Province,	}	1 delegate as above.
Burma		

II.—Minor Administrations—

Delhi	One delegate from the Central Public Works Department.
Coorg	One delegate.
III.—Military Engineer Services	Three delegates.

IV.—Indian States—

Central India ;	}	Two delegates each.
Rajputana ;		
Hyderabad and Mysore†		
Gwalior ;	}	One delegate each
Travancore ;		
Western India ;		
Punjab States ;		
Deccan States ;		
Gujarat States ; and		
Eastern States Agencies.		

3. Transport will be provided for the whole tour from the 6th to the 8th January and the visits on the 5th and 10th January but those attending will have to make their own arrangements for other transport at Bangalore. Non-officials will be asked to pay a lump sum representing the cost of hired

* It will probably be possible to arrange for a larger delegation from Madras owing to the proximity of Bangalore.

† In the case of Mysore there will be no objection to a larger attendance at Meetings of Public Works Department officers and others interested.

transport for the tour and visits if they desire to avail themselves of it. At Bangalore, delegates will pay their own hotel bills and daily allowance will be admissible. No mileage or daily allowance will be admissible for the tour from the 6th to 8th January or mileage for the visits on the 5th, 9th and 12th January. His Highness the Maharaja of Mysore has very kindly invited the Congress to be his guests during the tour.

4. Hotel accommodation will be arranged at Mysore and at Bangalore for those who so desire. Delegates must intimate if they require accommodation to be reserved for them at Bangalore, and must in any event state whether they require to be accommodated in a European type or orthodox Indian hotel. (See Appendix II).

5. All local arrangements for the Congress will be made by the Chief Engineer and Secretary to the Government of Mysore in the Public Works Department. The Government of India will deal with nominations of official delegates.

6. A list of the Papers, so far accepted, copies of which will be sent to all delegates, is at Appendix IV.

7. Any enquiries should be addressed to the Organising Secretary of the Indian Roads Congress, c/o The Department of Industries and Labour, Public Works Branch, New Delhi.

8. The final programme and list of papers will be notified later on as much in advance of the session as possible.

APPENDIX I.

PROVISIONAL PROGRAMME OF THE INDIAN ROADS CONGRESS.

Bangalore, 1936.

1. Preliminary meetings and Tours of inspection.

Saturday	January, 4th		Council Meeting, if possible.
Sunday	January, 5th	9 to 12 Noon	Council Meeting (if not found possible on Saturday).
		12 Noon	Congress assemble at the Legislative Council Hall, Bangalore.
		2 to 7 P.M.	Visit Chamaraj Sagar. Light lunch and visit to works. Visit trackways on the way.
Monday	January, 6th	9 A.M.	Bangalore to Mysore seeing certain road experiments and a demonstration of "molassed" road and trackways at Mandya. <i>Lunch at Mysore.</i>
Tuesday	January, 7th	9 to 12 Noon	Visit Sandalwood Oil Factory local Industries, roads and places of interest. <i>Lunch at Mysore.</i>
		1-30 P.M.	Leave Mysore.
		2 P.M.	Arrive at Seringapatam.
		3-45 P.M.	Arrive at Hulikere tunnel.
		4-15 P.M.	Leave Hulikere tunnel.
		5 P.M.	TEA at Krishnaraj-Sagar, and visit works.
		7-30 P.M.	Leave Krishnaraj-Sagar
		8 P.M.	Arrive at Mysore.
Wednesday	January, 8th	9 A.M.	Leave Mysore.
		10 A.M.	Arrive at T. Narasipur.
		10-30 A.M.	Leave T. Narasipur.
		12 Noon	Arrive at Sivasamudram after seeing Somanathpur and visit Hydro-Electric works. <i>Lunch at Sivasamudram.</i>
		1-30 P.M.	Leave Sivasamudram.
		2 P.M.	Arrive at Bangalore.
		5 P.M.	

2. Main Session.

Thursday	January, 9th	10 A.M. to 4 P.M.	Formal opening of the Congress at the Sir Puttanna Chetty Town Hall, Bangalore. <i>Group Photograph.</i> Papers.
Friday	January, 10th	8-45 A.M.	Visit Porcelain Factory and the Indian Institute of Science.
		11 A.M. to 5 P.M.	Meeting. Papers etc., at the Legislative Council Hall.
		8-30 P.M.	<i>Congress Dinner.</i>
Saturday	January, 11th	10 A.M. to 1 P.M.	Papers; at the Legislative Council Hall.

Optional Tour.

Sunday	January, 12th	9 A.M. to 6 P.M.	Kolar Gold Fields and back (Optional Rs. 20 each extra).
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APPENDIX II.

Questionnaire for delegates to the Second Indian Roads Congress, Bangalore, January 1936.

Delegates nominated to attend the Congress are requested, in their own interests, kindly to fill in the subjoined form and forward it as soon as possible before the 1st December 1935 to Diwan Bahadur N. N. Ayyangar, I.S.E., Chief Engineer and Secretary to the Government of Mysore, Public Works Department, Bangalore, who is the local Organising Secretary of the Congress.

I.—Hotel accommodation—

Is it desired that hotel accommodation should be arranged for on behalf of the delegate at Bangalore?

If so, please state whether single or double rooms, orthodox Indian style etc. etc., are required.

If not, please state probable address at Bangalore during the Congress session

In any case, please state probable date of arrival and proposed length of stay at Bangalore.

Note.—It is advisable to confirm the date of arrival about a week in advance of the session.

II.—Style of meals—

(1) Would usual European style of meals suit?

(2) If not, would European style of meals suit if Beef and/or Bacon are excluded from the menu? (Other dishes not containing beef and/or bacon being provided in lieu).

(3) Are strictly vegetarian/orthodox meals required?

(4) Remarks, if any.

I.—Transport for the tours of inspection—

(This is intended to be filled in by non-official delegates as transport for official delegates will be provided free of cost. The pro rata cost* per delegate will be intimated later on when full details are available as to the numbers participating).

Is it desired to participate in the general arrangements made for transport?

Those who intend using their own cars will please indicate this fact here

* Probably about Rs. 20, excluding the optional tour on the 12th January.

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CIRCULAR.
Press Communiqué.

THE INDIAN ROADS CONGRESS.

At the inaugural meeting of the Indian Roads Congress held in December 1934, it was decided to form a permanent body to be known as the Indian Roads Congress with a regular membership and subscription. The necessary preliminaries having been carried out it is now possible to invite applications from those wishing to join.

2. The objects of the Congress are generally to promote the science and practice of road construction and maintenance by annual meetings for the discussion of Papers and inspection of works of interest. The proceedings of the annual meeting, that is to say the Papers presented for discussion and the discussions thereon, will be issued free to all members or associates and will be available on sale to other persons interested.

3. The Congress will consist of two classes of constituents: Members and Associates. To qualify for membership, an applicant must be a qualified Engineer actually employed in road construction or maintenance or in business connected therewith. Associates will be persons other than qualified engineers who are in the opinion of the General Council sufficiently closely concerned with road construction and maintenance or any allied businesses to justify their inclusion. The annual subscriptions are—Members Rs. 10, Associates Rs. 50. In addition, it is probable that when the Congress meets in Bangalore on the 5th January 1936, it will decide to impose an entrance fee equivalent to one year's subscription which will then be called.

4. Attendance at the next Congress will of course be open to all members who have joined; have paid their subscription; and are in a position to attend, that is are either nominated by local Governments within the quota laid down by the Government of India for the purposes of payment of travelling allowances or are prepared to pay their own expenses.

5. Forms of application for membership or associateship are attached. Further forms may be obtained on application to the Organising Secretary of the Indian Roads Congress, care of the Department of Industries and Labour, Public Works Branch, Simla.

6. It is to be clearly understood that the Provisional Committee of the Congress reserve the right to reject any application for membership or associateship.

NOTE.—Copies of "The proceedings of the Inaugural Meeting of the Indian Roads Congress held at Delhi in December 1934" have been supplied to all those who attended the last Congress. Copies are also available for sale, at Rs. 2-12-0 per copy, from the Manager of Publications, Delhi.

INDIAN ROADS CONGRESS.

Form of Application for Membership.

I _____
of (address) _____

desire to become a Member of the Indian Roads Congress and agree that, if admitted, I will be bound by the Memorandum and Articles of Association and the By-laws* to be adopted by the Association in January 1936 and as legally amended from time to time. My academic qualifications are :—

My age is _____ and I am now employed as _____

The necessary fee (Rupees] ten) is sent herewith by cheque/by Postal Money Order.

(Signature)

Dated

Certificate of two Members.

(To be dispensed with in the case of those joining before the 31st December 1935.)

From our personal knowledge of the applicant we support his application.

signature) _____

(Signature) _____

*A copy of the draft Memorandum; Articles of Association and By-laws is attached. These are liable to modification and amendment before adoption.

INDIAN ROADS CONGRESS.

Application for Associateship.

I _____
of (address) _____

desire to become an Associate of the Indian Roads Congress and agree that, if admitted, I will be bound by the Memorandum and Articles of Association and By-laws* to be adopted by the Association in January 1936 and as legally amended from time to time.

My age is _____ and I am at present engaged in _____

The necessary fee (Rupees fifty) is sent herewith by cheque/by Money Order.

(Signature.)

Dated

Certificate of two constituents (member or associate) of the Society one of whom must be a member.

(To be dispensed with in the case of those joining before the 31st December 1935.)

From our personal knowledge of the applicant we support his application

(Signature) _____

(Signature) _____

*A copy of the draft Memorandum, Articles of Association and By-Laws is attached. These are liable to modification and amendments before adoption.

M98DIL

INDIAN ROADS CONGRESS,

Memorandum and Articles of Association,

MEMORANDUM OF ASSOCIATION.

1. *Name*.—The name of the society shall be “ The Indian Roads Congress ”.
2. *Objects*.—The objects of the Indian Roads Congress shall be—
 - (a) to promote the science and practice of road building and maintenance ;
 - (b) to provide a channel for the expression of the collective opinion of its members on matters affecting roads ;
 - (c) to promote the use of standard specifications and, if necessary to propose specifications ;
 - (d) to advise, where called upon, regarding education, experiment and research ; and
 - (e) to hold periodical meetings.
3. *Income and property*.—The income and property of the Society whencesoever derived shall be applied solely towards the promotion of the objects of the Society as herein set forth and no portion thereof shall be paid or transferred or distributed directly or indirectly by way of dividend, bonus or interest or otherwise howsoever, by way of profit to the members of the Society.

ARTICLES OF ASSOCIATION.

1. *Number of Persons*.—For the purpose of registration under the Societies Registration Act (No. XXI of 1860) the number of persons forming the Society shall be unlimited.

CONSTITUTION.

2. The Society shall consist of—
 - (a) Members.
 - (b) Associates.
 - (c) Honorary Members.
3. Members and associates shall be admitted upon election by the General Council. Provided that the General Council may delegate its power to admit members or associates to any member or members of the General Council.
4. *Qualifications of Members*.—No person shall be elected a member unless he is, in the opinion of the General Council a fit and proper person to be elected, and unless he is a qualified Engineer —
 - (a) in charge of roads ; or
 - (b) engaged in business connected with the construction and maintenance of roads ; or

- (c) otherwise engaged in public employ or in business connected with roads or the use of roads to an extent, in the opinion of the General Council, sufficient to justify his admission as a member,

5. The expression qualified Engineer shall be deemed to include—

- (a) Chartered Civil Engineers ;
 (b) Royal Engineers ;
 (c) Corporate Members of the Institution of Engineers, India and persons holding the academic degree or diploma accepted by that Institution as qualification for corporate membership ; and
 (d) any person who shall, in the opinion of the General Council, by reason of academic qualification or long practice in engineering be eligible to be a member.

6. *Qualifications of Associates.*—Associates shall be persons (not firms or corporations) who, while not qualified to be admitted as members, are in the opinion of the General Council, engaged in the administration of roads or road transport or so engaged in business connected with the construction and maintenance of roads or with the manufacture, sale or operation of road transport vehicles, as to render their admission as associates desirable.

7. *Honorary Members.*—Honorary Members shall not exceed fifty in number and shall be persons of eminence. They shall be elected by the General Council from time to time.

8. *Entrance Fee.*—The entrance fee payable on admission shall be—

									Rs.
Members	..	..	..	..	..	..	..	..	10
Associates	..	..	..	..	..	..	..	..	50

9. *Subscription.*—The yearly subscription shall be—

					If paid within 30 days of of due date	If paid after the expiry of 30 days from due date.
Members	..	..	..		10	15
Associates	..	..	..		50	75

The year shall be deemed to be from the first day of October until the last day of September following and subscriptions shall be payable in advance on the first day of October in any year.

10. *Donations.*—The General Council may in its discretion receive and administer any donations proffered by any person or corporation in furtherance of the general objects or some particular object of the Society.

11. *Finance and Administration.*—The money and other property of the Society shall vest in the General Council, which shall have power to appoint and pay establishment ; to incur expenditure on printing and circulating the proceedings of meetings, specifications and other matters ; to produce and issue a magazine or journal, and to make payment to contributors ; to invest surplus funds and realise the investments ; and generally to administer the funds and property of the Society in accordance with its objects. The General Council may delegate its functions, under this article, to any committee or person.

12. *Administration of the Society.*—The affairs of the Society shall be administered by a General Council with the assistance of Provincial Councils.

13. *General Council.*—The General Council shall consist of—

- (1) The Chief Engineer in charge of roads of each Presidency or Governor's Province.
- (2) The Engineer-in-Chief, Army Headquarters.
- (3) The Chief Engineer, Central Public Works Department.
- (4) The Consulting Engineer to the Government of India (Roads).
- (5) Three Chief Engineers in charge of roads in States which will have direct representation (qualifications to be determined).
- (6) Two representatives of other States to be elected at the time of each annual meeting by the Members and Associates resident in such States present and voting at the meeting. These two to hold office for two years.
- (7) Six representatives of business interests who being either members or associates shall be elected at the time of each annual meeting by the members and associates representing business interests present and voting at the annual meeting. Two of these six shall retire each year in rotation. They will normally serve for three years but two of the six elected to the Council on the first occasion shall retire after one year and two more after two years, the names of those who shall retire at the end of one year and two years respectively shall be determined by lot.

Provided that any member of the General Council as aforesaid may nominate a member or associate of the Society to represent him on the Council either for the whole year or for the purpose of attending meetings of the Council or the Society.

14. *Patron and Vice Patrons.*—A patron and not more than ten vice patrons may be appointed by the General Council.

15. *President and Vice Presidents.*—The General Council shall appoint a president and not more than three vice presidents who shall hold office for one year.

16. *Co-option of Members of Council.*—The General Council may co-opt any person, being a member or associate, to serve on the General Council.

17. *Committees.*—The General Council may appoint committees from among its members or from among members and associates of the Society for any purpose. Such a committee may co-opt any person to serve on the committee.

18. *Conduct of business of General Council and Committee.*—The General Council shall appoint a Secretary and a Treasurer, and such other officers as may appear to the Council to be necessary. The business of the General Council or of any committee may be conducted at meetings or by correspondence.

19. *International Roads Congress.*—The General Council may take upon itself the functions of organising committee for India of the Permanent International Association of Road Congresses, and may apply the funds of the Society to expenditure arising in this connection.

20. *Audit.*—The accounts of the Society shall be made up at the close of each year, a statement shall be prepared exhibiting the financial position of the Society and this statement shall be submitted to audit by such auditors as the General Council may appoint.

21. *Annual Report.*—The audited accounts and an annual report by the General Council shall be circulated to all members and associates within three months of the close of any year.

22. *Provincial Councils.*—The Chief Engineer in charge of roads of each Governor's Province and of each State having an area of not less than 15,000 square miles may in his discretion set up a Provincial or State Council to assist him in the management of the affairs of the Society in such province or state, and may appoint any persons to act as Provincial or State Secretary or Treasurer of the Society. Such provincial and state councils shall include all members of the General Council resident in the province or state and shall normally include at least one non-official member or associate.

23. *Annual meetings of the Society.*—There shall normally be not less than one meeting of the Society in each year, at which, in addition to discussion of technical matters, the annual report and accounts shall be presented for adoption. Subject to the provisions of the By-laws any question affecting the constitution and management of the Society may be discussed and the opinion of those present and voting be recorded: but no change in the Memorandum and Articles of Association shall be made without a reference, in the manner provided in the By-laws, to all members and associates and unless, upon such reference, not less than three fifths of those replying to the reference are in favour of the change.

24. *By Laws.*—The General Council shall have full power to make and amend such By-laws as may appear to the General Council to be necessary for the conduct of the business of the Society.

25. *Expulsion.*—The General Council shall have power by the vote of not less than two thirds of those voting in any case to expel any member or associate who shall be deemed to have been guilty of any conduct prejudicial to the Society or rendering him unfit to remain a member or associate.

26. *Suits.*—The Society may sue or be sued in the name of the President.

27. *Composition of the Society.*—For the purpose of registration the Society shall be deemed to consist of such members and associates as shall have intimated their intention of joining and shall have paid the entrance fee and subscription due at the date of registration.

28. *Dissolution and Adjustment.*—Any number, not less than three fifths of the members and associates may determine that the Society shall be dissolved in accordance with Sections 13 and 14 of the Societies Registration (No. XXI of 1860).

BY-LAWS.

1. Application for admission as a member or associate shall be made on the form annexed hereto, addressed to the Organizing Secretary of the Indian Roads Congress, Care of the Government of India, Department of Industries and Labour, Public Works Branch, Simla/Delhi.

2. The General Council shall take such steps as may in its opinion be necessary to ascertain the suitability of the applicant.

3. No member or associate whose subscription is more than thirty days in arrear shall be entitled to attend any meeting or to receive any publications of the Society.

4. At each annual meeting the President shall deliver an address dealing with matters of interest to the Society.

5. *Conduct of Meetings.*—The President or in his absence or by his expressed wish a Vice-President or a member of the General Council shall preside at all meetings and sessions of the Society. The Chairman for the time being shall have power to preserve, order and to require any member who has spoken for more than ten minutes at any time or who has already, in the opinion of the Chairman, had sufficient opportunity to state his views, to resume his seat.

6. *Voting at meetings.*—Votes at any meeting may be taken by a show of hands or by ballot in the discretion of the Chairman.

7. *Postal referendum.*—When any matter has to be decided by referendum the General Council shall arrange for the issue to all members and associates at their registered address (a) a memorandum stating the point or points at issue and (b) a voting card returnable by a date to be stated, not less than thirty days from the date of posting. The General Council shall appoint a scrutineer or scrutineers to examine and count the voting cards as soon as may be possible after the appointed date of return and the scrutineer or scrutineers shall report the result to the General Council. No card received after the appointed date shall be counted.

8. *Record of proceedings.*—(a) The proceedings of all meetings shall be recorded under the orders of the General Council. Copies of the record of the remarks made by any member or associate will be provided to him for correction as soon as reasonably possible after the session at which the remarks were made. If these are returned within 30 days of despatch they will be incorporated in the published proceedings. If they are not returned within 30 days the editor of the proceedings shall, under the general instructions of the General Council, have power to make such additions and corrections to the recorded remarks of any member or associate as may be necessary in his judgment to secure an accurate record. Likewise the editor shall

under the general control of the General Council, have power to reject additions or corrections which in his judgment do not represent what the member or associate said. (b) Any member or associate whether present during the discussion or not may send in to the editor within 30 days of the discussion any comments on the subject-matter of any paper and such comments may, in the discretion of the editor, be included in the record of the proceedings under a separate head entitled "Correspondence".

9. *Publications*.—In addition to the proceedings of annual meetings the Council shall have power to issue any other publications likely in the opinion of the General Council to promote the objects of the Society; to accept advertisements on payment for insertion in any publication; to fix the price of any publication; and to determine whether any publication shall be issued to members and associates free of cost or at a reduced cost. Provided that the proceedings of the annual meeting shall be issued to all members and associates free of cost.

10. *Copyright*.—All papers accepted for discussion at meetings and all matters included in the proceedings and publications of the Society shall be the property of the Society and no member or associate shall publish or otherwise make use for personal gain of any material included in the proceedings or publications save with the consent of the General Council.

11. *Medal, Premiums or Honoraria*.—The General Council shall have full power within its discretion, and subject to such conditions as the General Council may specify, to—

- (a) award a medal or medals for the best paper or papers presented to the annual meeting or otherwise communicated for publication;
- (b) award a premium for any meritorious research or communication;
- (c) grant an honorarium to any person or any service rendered to the Society or in furtherance of its objects; and
- (d) grant financial assistance to any person for a course of study or research

Divisional
List of present Members of the Provincial (General) Committee of the Indian Roads Congress.

1. **A. VIPAN, Esquire,**

Special Engineer for Road Development, Local Self Government Department, Madras.

2. **L. E. GREENING, Esquire,**

Deputy Secretary to the Government of Bombay, Public Works Department.

3. **D. J. BLOMFIELD, Esquire,**

Chief Engineer, Bengal Public Works Department.

4. **Rai Bahadur CHHUTTAN LAL,**

Chief Engineer, United Provinces. Public Works Department, Buildings and Roads Branch.

5. **S. G. STUBBS, Esquire, O.B.E.,**

Offg. Chief Engineer, Punjab, Public Works Department, Buildings and Roads Branch.

6. **H. HUGHES, Esquire,**

Officiating Chief Engineer, Burma, Public Works Department, Buildings and Roads Branch.

7. **N. G. DUNBAR, Esquire,**

Tempy. Chief Engineer, Bihar and Orissa, Public Works Department, Buildings and Roads Branch.

8. **P. V. CHANCE, Esquire,**

Offg. Chief Engineer, Central Provinces, Public Works Department, Buildings and Roads Branch.

9. **G. REIDSHAW, Esquire,**

Superintending Engineer, Assam, Public Works Department.

10. **G. M. ROSS, Esquire,**

Officiating Chief Engineer, Public Works Department, North West Frontier Province.

11. **A. BREBNER, Esquire, C.I.E.,**

Chief Engineer, Central Public Works Department.

12. **Rai Bahadur A. P. VARMA,**

Chief Engineer, Patiala State.

13. **Diwan Bahadur N. N. AYYANGAR,**

(Local Organizing Secretary of the Bangalore Congress.)

Chief Engineer and Secretary to Government, Public Works, Railways and Electrical Departments, Mysore. Bangalore.

14. **P. L. BOWERS, Esquire, C.I.E., M.C.,**
Chief Engineer, Jaipur.
15. **Rai Bahadur S. N. BHADURI,**
Chief Engineer, Gwalior.
16. **M. A. ZEMAN, Esquire,**
Chief Engineer, Drainage Department, Hyderabad (Deccan).
17. **H. E. ORMEROD, Esquire,**
Care of The Indian Roads and Transport Development Association, 4
Nicol Road, Ballard Estate, Bombay.
18. **Colonel G. E. SOPWITH,**
Care of Messrs. Turner Morrison and Company, Lyons Range, Calcutta.
19. **G. D. N. MEARES, Esquire,**
Care of The Standard Vacuum Oil Company, Ltd., 6, Church Lane
Calcutta.
20. **Major W. B. WHISHAW, M.C., R.E.,**
Engineer-in-Chief's Branch, Army Headquarters, India, Simla.
21. **K. G. MITCHELL, Esquire, C.I.E.,**
Consulting Engineer to the Government of India (Roads).

ORGANIZING SECRETARY OF THE INDIAN ROADS CONGRESS :-

R. L. SONDHI, Esq., I.S.E.,
Assistant to the Consulting Engineer to the Government of India (Roads)

APPENDIX IV.

Preliminary list and grouping of papers for discussion at the Second Indian Roads Congress to be held at Bangalore in January 1936.

Note.—At the preliminary meetings will be discussed the Reports of the Technical and Drafting Sub-committees and the Accounts of the Inaugural Indian Roads Congress.

TECHNICAL PAPERS.

FIRST SITTING.

Group 1.—Traffic Census and use of results thereof.

Paper No. 14.—An analysis of the Delhi Traffic Census operations; by R. L. Sondhi, I.S.E., Assistant to the Consulting Engineer to the Government of India (Roads).

Paper No. 15.—A study of the relationship between vehicular traffic and road surfaces as affecting the selection of an economical road surface; by H. P. Sinha, I.S.E., Central P. W. D., New Delhi.

Paper No. 16.—Traffic intensities and relation to road surfacing; by Lt.-Col. W. de H. Haig, D.S.O., United Provinces P. W. D.

Group 2.—Economical maintenance and improvement of macadam, surface-treatment and carpets.

Paper No. 17.—Economics of road maintenance (Road surfacing diagrams); by S. Bashiram, I.S.E., Punjab P. W. D.

Paper No. 18.—Economical surface treatment of important tourist lines in Madras; by M. R. Ry. V. S. Srinivasaragha Achariar Ayl., District Board Engineer, Chittoor.

Paper No. 19.—Surface Treatment with molasses on the Mysore-Bangalore road; by Diwan Bahadur N. N. Ayyangar, I.S.E., Chief Engineer of Mysore.

Paper No. 20.—The Road Problem in India, with some suggestions; by Col. G. E. Sopwith, Turner Morrison & Co., Calcutta.

SECOND SITTING.

Group 3.—Research and Experiment.

Paper No. 21.—General review of recent experiments in India; by K. G. Mitchell, C.I.E., Consulting Engineer to the Government of India (Roads).

Paper No. 22.—Road Research and Results; by C. D. N. Mears, Standard Vacuum Oil Company, Calcutta.

Group 4.—Earth Road Improvements.

Paper No. 23 (a).—Village Roads; by Hony. Capt. Rao Bahadur Choudhry Lal Chand, O.B.E., M.L.A.

Paper No. 23 (b).—Gravel Roads; by Diwan Bahadur N. N. Ayyangar, I.S.E., Chief Engineer of Mysore.

Paper No. 23 (c).—Vitrified bricks for surfacing roads in deltaic districts; by M. R. Ry. G. Gopala Acharya, Madras P. W. D.

Paper No. 24.—Oil Bound Earth and Gravel Roads; by T. G. F. Hemsworth, I.S.E., Burma P. W. D.

Group 5.—Use of Cement in roads.

Paper 25.—Cement Bound Roads; by W. J. Turnbull.

THIRD SITTING.

Group 6.—Bridges.

Paper No. 26.—Uniform Bridge Loading; by M. G. Banerjee, Calcutta Corporation.

Paper No. 27.—Design of Highway Bridges; by Messrs. Radice, Wilson and Warren, Jessop and Co. Ltd., Calcutta.

Paper No. 28.—Permissible Stresses in Concrete Bridge Design; by W. J. Turnbull.

FOURTH SITTING.

Group 7.—Road Traffic.

* *Paper No. 29.*—Control of Motor Transport in Mysore; by H. Rangachar, Divisional Superintendent, Mysore Railways.

Group 8.—Road Surveys and Construction.

Paper No. 30.—Construction of the Shillong-Jaintiapur road; by F. E. Cormack, I.S.E., Assam P. W. D.

Paper No. 31.—A method of rapid road reconnaissance; by Captain W. G. Lang-Anderson, R.E., Superintending Engineer, N.-W. F. Province.

FINAL SITTING.

Conclusions and resolutions.

